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Prevalence and Assessment of Self Medication Practices Among Undergraduates in Kerala

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ABSTRACT

According to World Health Organization (WHO), self-medication is the selection and use of medicines by individuals to treat self-recognised illnesses or symptoms. It can be defined as the self-consuming of medications without getting proper advice from practitioners for either diagnosis or treatment. Self-medication is a global phenomenon and hence has a huge prevalence in the disease metrics of all global citizens. Self-medication practices cannot be considered as entirely harmful. Drugs classified as "over the counter" can be purchased without a prescription and many times might save time and money for the patients. This study considered a prospective cross-sectional method which was carried out among undergraduate students in Calicut and Malappuram districts in Kerala over 5 months from August 2018 to December 2018. A total of 672 undergraduate students from medical and non-medical colleges participated in this study. This study opens out the fact that self-medication is widely practiced among medical students than non-medical students. Most students had a positive attitude towards self-medication and antibiotics were the most commonly used for self-medication. Improved knowledge and understanding about self-medication may result in rational use and thus limit emerging drug resistance issues.

INTRODUCTION

Self-medication is an important health issue especially in developing countries like India. In developing countries, where universal access to health care is yet to be achieved, self-medication is one of the common and preferred modes resorted by the patients. Various studies reported that self-medication may lead to delay in care-seeking which results in paradoxical economic loss due to delay in the diagnosis of underlying conditions and appropriate treatment. Also, self-medication can lead to interaction between drugs which would be prevented, had the patient sought care from a licensed medical practitioner. Practicing self-medication for drugs like antibiotics might lead to drug resistance; and hence, there needs to be a check on these practices.

Self-medication practices cannot be considered as entirely harmful. Drugs classified as “over the counter” can be purchased without a prescription and many times might save time and money for the patients.

Self-medication is an important component of the healthcare system and its practice is widespread. However, the major problem with self-medication is the detrimental consequences due to its inappropriate use. Consumers prefer to manage their common health problems using self-medication as it is easier, cost-effective, and time-efficient. Potential risks of self-medication practices include incorrect self-diagnosis, delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect manner of administration, incorrect dosage, incorrect choice of therapy, masking of severe disease, and risk of dependence and abuse. [1]

Self-medication is a global phenomenon and a potential contributor to human pathogen resistance to antibiotics. [2]The use of self-medication is influenced by several factors such as personal, organizational, and environmental factors. Media, the Internet, and extensive advertisement by pharmaceutical manufacturers also play an important role in practicing self-medication. Inadequacies in the healthcare delivery systems especially in low-income countries such as inaccessibility, unregulated distribution of medicines, inequitable distribution, lack of healthcare professionals, high costs, and patients’ attitudes toward healthcare providers are some of the key drivers of self-medication.[3] Although various factors contribute, self-medication is the major reason for the irrational use of medicines. Thus, proper health communication is inevitable to minimize medicine use problems including antimicrobials.

Few studies were conducted at the community level in India to assess the magnitude of self-medication practices. Studies of such nature will provide useful insight on the reasons for which patients resort to this practice and might help the policymakers and regulatory authorities to streamline the process of drug regulations, updating the list of essential medicines, and safety issues of over-the-counter drugs.[4]

The study aims to know the assessment of self-medication among undergraduate students. The objective is to compare self-medication patterns, to find out the use of self-medication in different medical indications, to know about the class of drugs used, to conclude the use of self-medication is preferable or not, and to bring awareness of the use of self-medication in students.

MATERIALS AND METHODS

The study followed a prospective cross-sectional method which was carried out among undergraduate students in Calicut and Malappuram districts in Kerala over 5 months from August 2018-December 2018. A total of 672 undergraduate students from medical and non-medical colleges participated in this study. The study population was undergraduate students of both sex between 18-25 years. The students with psychiatric, chronic and neurodegenerative disorders were excluded from the study.

Data were collected with a pre-validated structured questionnaire related to various aspects of self-medication practice and its related knowledge. The study subjects were informed that the information collected would be anonymous and participation would be totally voluntary. There was a total of 30 questions on demographics, participant's knowledge on self-medication, source of information, knowledge about drugs and doses, factors influencing self-medication practices and strategies.

Data collected were entered into Microsoft excel 2007 version and analyzed by using the descriptive statistical method and presented in suitable tabular and graphical forms.

RESULTS

A total of 672 undergraduate students agreed to participate in our cross-sectional study and filled the questionnaire, giving a response rate of 100%. The study had made an attempt to find the self-medication practices among medical (66.96%) and non-medical (33.04%) students. Our current study shows that females (60.56%) more participate in this study. The majority of them were between the age group of 18-21 years. The prevalence of self-

medication was 71.11% in medical and 44.11 % in non-medical students.

Table No. 1: Distribution of the study subjects in demographic characteristics (N=672)

Parameter	Self-medication (%)	
	Yes	No
Gender		
Male	200 (29.7%)	65 (9.6%)
Female	350 (52.08%)	57 (8.48%)
Age (in years)		
18-21	355 (52.82%)	95 (14.13%)
22-25	147 (21.87%)	75 (11.16%)
Faculty		
Medical	320 (47.6%)	130 (19.34%)
Non-medical	98 (14.58%)	124 (18.45%)

Table No. 2: Distribution of study subjects practicing self-medication

Self-medication practices	Medical (N=320)	Non-medical (N=98)
Reasons for self-medication		
To save time and money	136 (42.5%)	42 (42.85%)
Previous experience	61 (19.06%)	15 (15.3%)
Do not like to go to the hospital	33 (10.31%)	12(12.24%)
Simple medical issues	90 (28.12%)	29(29.59%)
Sources of self-medication		
Previous prescription	123 (38.43%)	32 (32.65%)
Friends and family	11 (3.43%)	21 (21.42%)
Study books	136 (42.5%)	3 (3.06%)
Internet and social media	50 (15.62%)	42 (42.85%)
Common medical conditions for self-medication		
Fever and headache	160 (50%)	42 (42.85%)
Cold and cough	71 (22.18%)	27 (27.55%)
Nausea and vomiting	24 (7.5%)	19 (19.38%)
Acidity	53 (16.56%)	8 (8.16%)
Others	12 (3.75%)	2 (2.04%)
Category of drugs used for self-medication		
Antibiotics	112 (35%)	40 (40.81%)
Antacids	61 (19.06%)	19 (19.38%)
Anti-histamines	81 (25.31%)	24 (24.48%)
NSAIDs	40 (12.5%)	12 (12.24%)
Others	26 (8.12%)	3 (3.06%)

Table No. 3: Attitude of study subjects towards self-medication

Attitude towards self-medication	Medical (N=450)			Non-medical (N=222)		
	Yes	No	Not sure	yes	no	Not sure
Self-medication practices are harmful?	295 (65.55%)	19 (4.22%)	136 (30.22%)	53 (23.87%)	14 (6.30%)	155 (69.81%)
All medicines have side effects?	288 (64%)	119 (26.44%)	43 (9.55%)	42 (18.81%)	39 (17.56%)	141 (63.51%)
Knowledge about the use of medicines?	401 (89.11%)	13 (2.88%)	36 (8%)	56 (25.22%)	18 (8.10%)	148 (66.66%)
Awareness about expiry dates of medicines?	233 (51.77%)	202 (44.88%)	15 (3.33%)	50 (22.52%)	11 (4.95%)	161 (72.52%)
Will you advice others to take self-medication?	117 (26%)	322 (71.55%)	11 (2.44%)	135 (60.81%)	36 (16.21%)	51 (22.97%)
Self-medication can mask your actual diagnosis?	396 (88%)	38 (8.44%)	16 (3.55%)	150 (67.56%)	53 (23.87%)	19 (8.55%)

DISCUSSION

This study focused on 672 undergraduate students, who voluntarily participated in the data collection process. The medical population is referred to the undergraduates in the discipline of medicine, nursing, pharmacy, Ayurveda, etc. The non-medical population includes students from various disciplinary of arts and science.

During this research process, considering the social demographics, from the 265 males and 407 females, in **Table No. 1**, 200 male individuals (29.7%) followed SM practices and in females, 350 of them did (52.08%), whereas 65 males and 57 females never followed SM practices. While considering the age group, between 18 to 21 years of age, 355 undergraduates followed SM practices and 95 among them said a no to it. To take into

account of the undergraduates in age of 22 to 25, 147 of them did SM practices but 75 of them didn't follow such a medication path. In the case of faculties, 320 (47.6%) medical faculties followed SM, whereas 130 (19.34%) of them did not find SM so appealing. 98 non-medical faculties followed SM, but 124 of them never.

In the distribution of study subjects practicing self-medication, in **Table No. 2**, among the 320 medical faculties, 136 of them did SM practices to save time and money; on the other hand, in 98 of the non-medical faculties, 42 of them found SM saves time and money. With the knowledge and habit of previous experience, 61 medical and 15 non-medical undergraduates followed SM practices.

12 Non-medical and 33 medical undergraduate individuals did SM only because they didn't like to go to the hospital. When having simple medical issues, 90 and 29 undergraduate individuals preferred SM in medical and non-medical streams respectively.

The primary source for the SM practices was found to be previous prescriptions, followed with study books, friends and family and internet and social networking sites. Into the sources of SM, with the previous prescription, 123 of the medical (38.43%) and 32 of the non-medical (32.65%) continued accepting SM. 11 of the medical (3.43%) and 21 of the non-medical (21.42%) individuals appreciated SM practices since they were acquainted to them by the friends and family. From study books, 136 and 3 of the medical and non-medical individuals came to know about SM and started following it. For 42 non-medical and 50 medical individuals' internet and social media became the sources of SM.

On having a look onto common medical conditions for self-medication, for fever and headache, 160 medical individuals (50%) found SM appreciable whereas 42 of non-medicals (42.85%) doesn't. In case of cold and cough, 71 medical and 27 non-medical individuals followed SM, whereas 24 medical and 19 non-medical individuals did SM for Nausea and vomiting. For acidity, 53 and 8 of the medical and non-medical individuals followed SM. In others (including dermal disturbances, allergies etc.) 12 medical and 2 non-medical individuals did SM.

In the category of drugs used for SM, antibiotics found to have a major hand, because 112 of the medical (35%) and 40 of the non-medical individuals (40.81%) used them for SM practices. 61 medical and 19 non-medical individuals used antacids as an SM tool. In case of anti-histamines, 81 medical and 24 non-medical individuals used them for SM practices. The

major NSAID's have been used by the 40 medical and 12 non-medical individuals. The 'others' category of drugs (includes herbals, vitamins, dietary supplements etc.), 26 medical and 3 non-medical individuals practiced them SM.

In **Table no.3**, while assessing the knowledge, awareness, attitude of study subjects towards SM, set several parameters. Among them, when 450 medical and 222 non-medical study populations were asked whether self-medication practices are harmful or not, 295 of the medical population (65.55%) believed it is harmful whereas 19 of them (4.22%) doesn't and 136 of them (30.22%) were unsure about it. In case of non-medical individuals, 53 of them found it harmful, on the other hand 14 of them believed it is harmless whereas 155 of them are not sure about this. When they were asked, do all medications have side effects, 288 of the medical population said yes, 119 of them replied with a no and 43 of them were clueless on it. On the contrary, 42 of the non-medical population said that all medications have side effects but 39 of them believed not and 141 of them were not sure. On asked about the knowledge on the use of medicines, 401 of the medical population (89.11%) were found aware of it, whereas 13 of them(2.88%) were not. In addition to it, 36 of them were unsure about it. Of the non-medical population, 56 of them knew the use of medicines and 18 hadn't. Among them, 148 undergraduates were not sure on it.

We asked the study population about their awareness on expiry dates of medicines, in the medical population, 233 of them (51.77%) were aware, 202 of them (44.88%) were not and 15 of them were found to be not sure. In the non-medical population, 50 of them were aware of the expiry dates of the medicines, whereas 11 of them weren't and 161 of them were not even sure of it. When asked on will they advise others to take self-medication or not, 117 of the medical population said yes, 322 of them denied on providing such a suggestion to others and 11 of them were not sure on their opinion. On the other hand, in the non-medical population, 135 of them said yes, 36 of them said no and 51 of them were unsure.

As the last parameter in the data collection process, the populations were asked, can SM mask your actual diagnosis, from the medical population 396 of them (88%) replied with a yes, 38 of them (8.44%) believed that SM can't mask the actual diagnosis and 16 of them had no specific answer to this question. While considering the non-medical population, 150 of them believed that it can mask the actual diagnosis, 53 of them replied to this question with a no and 19 of them were clueless on this.

CONCLUSION

672 undergraduate students in Kerala voluntarily participated in this research process. We, then classified them on several parameters including the basis of stream of study, i.e, as medical and non-medical and even on age groups too. The prevalence of self-medication is high in undergraduate students, despite the majority being aware of its harmful effects. This study shows that self-medication is widely practiced among medical students than non-medical students. Most students had a positive attitude towards self-medication and antibiotics were the most commonly used for self-medication. Since inappropriate self-medication can cause serious harm not only to the students but also to those whom they might suggest as health providers. Medical students play a vital role in health promotion so steps should be taken to make them more aware of the pros and cons of self-medication, and the importance of responsible self-medication.

It is recommended that a holistic approach should be taken to prevent the problem of self-medication, which includes proper awareness and education to the public. Improved knowledge and understanding about self-medication may result in rational use and thus limit emerging drug resistance issues.

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